Emmet (T. A.)

THE

PHILOSOPHY OF UTERINE DISEASE,

WITH THE TREATMENT APPLICABLE TO DISPLACEMENTS AND FLEXURES.

BY

THOMAS ADDIS EMMET, M. D.,

SURGEON TO THE WOMAN'S HOSPITAL OF THE STATE OF NEW YORK.

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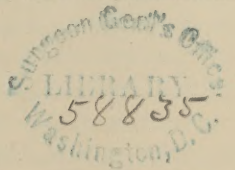

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THE PHILOSOPHY OF UTERINE DISEASE, WITH THE TREATMENT APPLICABLE TO DISPLACEMENTS AND FLEXURES.[1]

It would be difficult to present a subject on which a greater diversity of opinion exists in the profession than the one I now have the honor of offering for your consideration.

This difference is not only as to cause and effect, but to as great an extent in relation to the proper means of treatment. Indeed, at first sight, this great difference is incomprehensible, and it seems impossible to reconcile the extreme views held by men of honest purpose and equally based on personal observation. But experience has long since taught me that a medium course is the most successful one, as from this stand-point we can utilize and better appreciate the views based on the practice of either extreme. In years past I have honestly overcome all obstructions, and by the aid of the knife I have opened up the uterine canal to such an extent that it was impossible for any mechanical obstacle to exist; and I did not cure my patients. In turn I have devoted no little mechanical skill to overcome every displacement, and have succeeded beyond my expectations; yet the results were not satisfactory. At length I became confident that local congestion and inflammation were the causes of the evil, producing hypertrophy, hyperæsthesia, versions and flexures. I directed my treatment

[1] Read before the Medical Library and Journal Association of New York, June 5, 1874.

now exclusively to relieving the congestion, as I will describe hereafter. My results were better, for I found that as I diminished the congestion, the hyperæsthesia disappeared, the flexures lessened in degree, and there was, with less hypertrophy, a great improvement in the versions; but my patients frequently relapsed, and the results were not such as I had anticipated. I ultimately recognized the fact that there was a stage in the treatment of almost every case when mechanical support was indispensable as an adjunct, and under certain circumstances the use of the knife could not be ignored. The fact also presented itself to me that in a large number of cases the local condition was secondary to that of the general system, and in no case could we conscientiously overlook the connection. I became convinced that, as a rule, the local difficulty in the beginning was the effect, but a point was reached ultimately when the uterine condition became the most prominent, and exercised a direct influence in reducing still further the tone of the general system. In addition, experience taught that we cannot restore the female to health by local treatment alone, nor by devoting our attention exclusively to the general condition can we relieve the local one. I regard some degree of anteversion as a normal position of the uterus, while retroversion is always incident to, and a flexure is an exaggeration due to, causes to be considered hereafter.

Any conceivable amount of deviation from a normal standard may and does frequently exist without discomfort, so long as the circulation remains unobstructed and the proper functions are performed. Deviations may result from congenital causes, or from accident, and a degree of tolerance may become established which ultimately seems to be a normal condition for the individual. Yet there is in each case a limit to the immunity, as sooner or later Nature exacts the penalty. A retroversion may exist for years without producing inconvenience, but from some accidental cause the general health may become impaired; the vaginal walls will gradually lose their integrity, a miscarriage, or some other cause, will produce an undue congestion, with enlargement of the uterus, and we have at length the most urgent symptoms presenting themselves for relief. There is less immunity from flexures of

the body of the uterus, yet a moderate amount of disease may be borne so long as the general health remains good. A flexure of the cervix below the vaginal junction, at a right angle even to the body, or a partially constricted os, may produce but little discomfort for an indefinite time, beyond a slight dysmenorrhœa in the unmarried female; but in the wife, if the condition has produced sterility, we are at length forced by a train of nervous symptoms to recognize a local cause of irritation. In other words, anteversion may exist without causing irritation of the bladder, retroversion without symptoms of prolapse or obstruction to the rectum, and flexure without dysmenorrhœa, so long as the nutritive functions maintain their integrity.

Impaired nutrition, as the cause and not the effect, depreciates the nervous force, and without this needed stimulus functional derangement naturally follows, a loss of balance results, and we have congestion or the opposite condition. Congestion produces enlargement of the tissues, and it may remain passive or result in inflammation, while a want of nutrition causes atrophy. Congestion is always the result of some local irritation, a condition which is but temporary in duration if the reparative powers are in a state of integrity. Congestion, however, does not imply inflammation, although the latter cannot have a beginning without it. If the congestion reaches a degree sufficient to establish inflammation, we have at once instituted a distinct train of symptoms which is accidental and secondary to the primary condition. The terms congestion and inflammation are synonymous with many in application to uterine disease, and it leads to confusion. Inflammation cannot exist without molecular death, and its products are easily recognized until the injury has been repaired. We may look in vain, *post mortem*, for any evidence of a previously-existing endometritis, so called, or ulceration of the cervix, as it is termed. We find the tissues blanched, the blood from the capillaries having passed into the larger vessels as the heart failed in keeping up the supply, but there is neither loss of tissue on the surface of the mucous membrane beyond the epithelium, if so much, nor are products of inflammation to be found in the tissues of the organ itself. In-

flammation can only exist in an acute form, although its products may remain for an indefinite period. Therefore the term chronic inflammation is a misnomer.

From congestion and increased weight the uterus will naturally settle into the pelvis, and a version mechanically results toward the heavier side. The neck of the uterus soon becomes, as it were, a fixed point, and can move but forward in the axis of the vagina, while the body above becomes bent on itself in the opposite direction. Hence, a flexure of the body, a chordee, as it were, to be augmented by any increase or obstruction to the circulation. Violence or an accidental cause may produce partial retroversion, and, if the fundus advances into the hollow of the sacrum beyond a certain point, we have at once two forces operating, in opposite directions, to produce a retroflexion. The cervix becomes pressed upward against the anterior wall of the vagina, which can only yield to a certain degree, and, with the weight and downward pressure in the opposite direction, the body of the uterus is gradually bent upon itself. We have two causes of flexure which may be termed congenital, or at least having an origin previous to puberty. As the uterus becomes developed, the growth of the cervix is, in length, out of proportion to the body. Gradually, from a want of room, the cervix slides along the posterior wall, in the direction of the least resistance, until it presents in the axis of the vagina, causing a sharp flexure just at the vaginal junction. In a narrow vagina, with a deficiency or absence of the posterior *cul-de-sac*, a degree of retroversion must exist. At puberty, with increased weight of the uterus and from other causes, the fundus gradually settles into the hollow of the sacrum, and we have a flexure produced in the same manner as I have shown to follow this displacement when resulting from accident.

Congestion of the mucous follicles, limited to the cervix or extending through the uterine canal, with increased secretion and some enlargement of the organ, is the most common form of uterine disease. In my experience, some degree of flexure of the body, with an increase of anteversion, has been more frequently met with than in the displacement backward. Partial obstruction of the uterine canal, at a given point above

the vaginal juncture, is caused by flexure, and is increased by congestion, with passive œdema of the mucous membrane and possibly of the submucous tissues. A resort to surgical means for the relief of this condition has been a favorite procedure with many in the profession. For years I have not divided the cervix laterally except for the removal of fibroids. At an early date in my experience, I satisfied myself that a flexure of the body could not be relieved by a lateral division, even if extended to the vaginal junction, and that the practice was based on unscientific principles. I have never seen a case permanently benefited by the operation, except in rare instances, where pregnancy fortunately took place during a slight remission of symptoms, due to the revulsive action attending the process of reparation. I can, moreover, state that I have never known the malpractice of any other surgical procedure followed at times by such evil consequences. When practised by skillful hands, under proper surroundings, and with the requisite after-treatment, the operation is attended with comparatively little risk, but without benefit. It has been regarded by the profession at large as a simple operation; and it is certainly one in execution, but it requires no little experience to decide when it can be practised with safety, even when it is advisable. I believe that there are but few of us who have not in years past seen the most deplorable results following the indiscriminate practice of this operation, through reckless inexperience and neglect afterward.

November 28, 1862, I operated on a patient, who had received, in labor, a double lateral laceration of the cervix to the vaginal junction, by denuding and bringing together with silver sutures the anterior and posterior flaps. It was a case in my private hospital. I was assisted by Dr. G. S. Winston, then my assistant, and I believe Dr. T. G. Thomas was also present at the operation. This lady suffered from hypertrophy of the uterus, with an intractable erosion covering a cervix apparently some two inches in diameter. The erosion by great care had been several times healed, but its recurrence took place as soon as she began again to exercise. She had been some time under treatment before I appreciated the laceration, as the tissues had undergone fatty degeneration, and were so softened and

flattened out as to give no evidence, on inspection, of the real condition. My attention was first attracted to the width of the cervix in comparison with the body, during an examination with the finger, as the patient was lying on the back. The relative size of the cervix to the body of the uterus was as the top of a half-grown mushroom would be to its stalk. By seizing the anterior and posterior portions of the cervix with a tenaculum in each hand, I found that, when the flaps were brought into apposition, the inverted portion rolled inward to the canal, and the cervix was in fact then but little larger than natural. The remedy at once suggested itself to me, and I performed the operation to which I have referred, the effect being that the hypertrophy rapidly diminished, with no recurrence of the erosion afterward. It was evident that the hypertrophy and erosion had been due to the rolling out of the tissues, as the flaps were forced apart on standing, by the posterior one catching on the recto-vaginal septum, while the anterior flap was crowded forward in the axis of the canal, in the direction presenting the least resistance. This case was one of great importance to me, for it has been my practice from that time to close all lateral lacerations which have passed under my observation as a result of labor. It led me also to appreciate exactly the same condition as a result of lateral division of the cervix in all cases where the operation had been thoroughly done; and I have since in every instance endeavored to correct the damage by reuniting the flaps before resorting to any other treatment. I know of no one previous to this time who had recognized this chronic condition as a cause of hypertrophy and extensive erosion, when resulting from childbirth, or as a consequence of lateral division of the cervix; and I believe the above operation to have been the first practised for its reparation. In a paper entitled "Surgery of the Cervix," published in the *American Journal of Obstetrics*, and read before the Medical Society of the County of New York, February 8, 1869, I have presented my views at greater length in reference to this condition and operation.

When the flexure occurs at or below the vaginal junction, it is seldom in the unmarried that we are called upon for the

relief of any serious uterine disturbance until later in life. Dysmenorrhœa, it is true, always exists in the beginning of the flow, but is relieved as soon as it has become established, while the contrary is the case when the flexure is in the body of the uterus. In the latter condition the dysmenorrhœa does not begin until menstruation has already made its appearance, it then increases in degree, and continues until the flow ceases. In the first instance, the long and narrow cervix becomes thicker, shorter, and straighter, in consequence of the menstrual congestion, so that the mechanical obstruction is removed for the time. With flexure of the uterine body, in either anteversion or retroversion, the obstruction becomes exaggerated on increased congestion. This is due to the fact that the disease is confined chiefly to one side of the organ, while the circulation is comparatively unobstructed on the opposite side.

For the relief of the flexure at the vaginal junction, I always divide, with scissors, the posterior lip backward in the median line. This operation is attended with but little risk, if the case is properly cared for, from the fact that the organ is otherwise in a comparatively healthy condition; unless the history of the case points to the existence of a previous attack of cellulitis, resulting from some accidental cause, there will be but little danger of this complication from the operation. Quite the contrary will be the case when the body has been involved in either anteflexion or retroflexion of long standing, for a certain amount of perimetritis is almost certain to have existed at some previous date, leaving a condition afterward requiring but a slight provocation to reëstablish the inflammation in a more serious form. The ultimate result of the operation is to bring the neck to a natural length, for, by a division of the circular fibres, the longitudinal ones gradually retract, and the canal becomes straight; were other advantages equal, the backward operation is preferable to the lateral one, as the cervix is divided only on one side, and the risk from hæmorrhage is less, as the circular artery can be easily avoided. Moreover, there will be no gaping or rolling out of the edges, after they have healed, as the flaps are kept sufficiently in contact by the lateral walls of the vagina. Although there may be no bleeding at the time of the opera-

tion, the use of a tampon for some ten days is a necessary precaution to guard against subsequent hæmorrhage. The incision must be kept open by gently drawing the point of a sound through the angle of the wound, and the edges apart by daily dressings of cotton pledgets saturated with glycerine. To guard against inflammation, it is indispensable that the patient should be kept in bed, and protected from cold, until the parts have healed. The object of the operation is to remove a very common cause of sterility, and one liable to result in retroversion, from sexual intercourse, with prolapse afterward, so soon as the body becomes forced over in line with the axis of the vagina. In the unmarried the dysmenorrhœa is relieved by the operation, the tendency to retroversion obviated by shortening the neck, and an exciting cause of future disease removed by allowing of a free escape of the secretions from the canal.

When a flexure of the body has long existed, the tissues, at the point of greatest constriction, gradually undergo fatty degeneration from pressure, and absorption takes place, causing a permanent deformity, as after caries of the spine. When a point has been reached, after careful treatment of such a case, at which all tenderness on pressure has been removed, it is often judicious to divide the cervix backward, and to incise forward the seat of flexure above, sufficiently to open the canal. This will facilitate the application of any after-treatment which may be found necessary to the canal above, and guard against a relapse from any mechanical obstruction afterward. But, if done too soon, without the proper preparation and the requisite subsequent care, all previous gain will be lost by pelvic cellulitis, and even general peritonitis may result. The patient's life may be saved for the time, but there is seldom vitality enough remaining even to regain the condition existing previous to the operation.

During the time I held the position of surgeon-in-chief to the Woman's Hospital, from September 1, 1862, to May 1, 1872, there were 1,842 patients treated under my charge. This operation was performed sixty times in the institution, as will be seen by the following statement taken from the records and furnished me by Dr. William H. Baker, the house-surgeon.

From September 1, 1862, to the close of the year, eight operations; 1863, nine; 1864, six; 1865, four; 1866, three; 1867, three; 1868, five; 1869, six; 1870, thirteen; 1871, one; 1872, to May 1st, two. During the year 1870 four lateral operations were performed for the removal of fibroids, making a total of fifty-six operations for flexure of the cervix. The operations were all, I believe, performed by myself, except during the year 1870, when my assistants, Dr. J. G. Perry and Dr. Bache Emmet, operated six times—the former five times, the latter once. Three cases of serious cellulitis followed these operations, but from which complete recovery took place; one death occurred from general peritonitis, coming on after the patient was well enough to be up, and it could be attributable alone to her own imprudence. This patient was sent to the hospital by Dr. Baur, of Brooklyn, but now of St. Louis; after permission had been refused, she took a cold bath with her windows open, and was seized with a violent chill before she had completed her toilet; it was followed immediately by a most violent attack of peritonitis, and death resulted in a few days.

During the past thirteen years I have operated some forty-nine times in my private hospital, and have in the same period treated two thousand and thirty-six uterine patients, with one death and one serious case of cellulitis, terminating in pelvic abscess, from which recovery took place after an illness of two years. The cause of death was peritonitis, occurring in a case where I operated the day after her arrival from a long and fatiguing journey, to oblige her physician, who wished to return home without delay. I have since held myself culpable for the death of this patient, so far as to have deviated from my rule in never operating until a patient has been sufficiently long under observation for me to appreciate fully her condition and to prepare her properly for it. The pelvic abscess, following an attack of cellulitis, was brought about by the patient's imprudence in sitting up and exposing herself to cold in her night-dress, and bare feet. To the best of my recollection, I have performed this operation but twice outside of my private hospital, and in both instances the patients remained under the charge of their physician. One of these cases, on whom I operated for retroflexion, died

ultimately from the effects of a pelvic abscess. It occurred some years ago, before I had learned from experience that in cases of retroflexion a certain amount of cellular inflammation has previously existed, and that its products are seldom if ever absent so long as the organ remains in this position. The lady was a foreigner with whom I was unable to hold any personal communication; the operation was performed at a large hotel where she did not get the proper care, and I have no doubt she suffered from exposure.

The number of cases treated in private practice has been given, that they may be added to those cared for at the hospital, from the fact that many of the patients were sent to the institution by me specially for the operation—as otherwise the proportion would be too large. The ratio to the whole number treated can be but an approximation, however, since I can give no estimate of the number seen by consultation in private practice, or with accuracy the number treated in the outdoor department of the institution; and yet many of the operations performed were on patients received from these sources, although the proportion of operations to the given number of uterine cases under treatment is larger than it would be in reality, could we arrive at the total number under observation, yet it is sufficiently small to show that this operation has never been with me the rule of treatment.

We will now consider briefly the mechanical means to be resorted to for the relief of displacements. I am ignorant of any instrumental means, safe or reliable, for correcting the position of an anteverted uterus. Great relief may sometimes be obtained, on increasing the degree of anteversion, by the use of a pessary with a long-enough curve in the posterior *cul-de-sac* to lift the neck of the organ from the floor of the pelvis. On thus slinging the organ, as it were, with the fundus resting against the pubis and the cervix elevated, the circulation will be improved, and the irritability of the bladder lessened. We gain time by this means, and enable the patient to take more exercise, since we break the force or jar which would be otherwise transmitted to the organ so long as the cervix rested on the floor of the pelvis. The various devices for forcing the uterus into an upright position to a point which the organ

likely never occupied even when in a healthy state, are faulty in theory and wrong in practice. If we can lift, by any appliance, the uterus to a point where the obstructed venous circulation can be relieved through the neighboring tissues, which have been put on the stretch by the sagging organ, it is all that can be accomplished by such means, and the mere anteversion is of no consequence. Any instrument making direct pressure on the anterior wall, the chief seat of disease and the point of greatest tenderness, must prove a source of irritation. I deprecate even more the intra-uterine stem-pessary, for, had this instrument been the device of the Evil One himself, its use could not be productive of more danger. Its use in a flexure seems as rational as would be the introduction of a straight steel sound into the urethra for the relief of an existing chordee; the penis might be straightened by force, but the cause of difficulty would certainly not be removed. The treatment of retroversion of the uterus is more satisfactory, mechanical means can be better applied, and the good resulting from relieving the obstructed circulation is well marked on restoring the organ to its natural position. A recent case of retroversion can be reduced with comparative ease, and an instrument can readily be adjusted which will keep the organ so far anteverted as to render it difficult for it to return to its former position. If, however, the displacement has been of long duration and the uterus has become flexed, the condition will, in all probability, have acted as a source of irritation in causing cellulitis to a greater or lesser extent. Even should adhesions not have formed, a degree of congestion will have been kept up so as to require but a slight provocation to establish a fresh attack of inflammation. It is therefore wise to proceed with the greatest caution in any attempt at reduction until we have fully appreciated the condition. Should we find the uterus firmly bound down by adhesions, it can be replaced in time, for with care, patience, and good judgment, in not attempting too much in a single effort, these bands will gradually become so stretched and attenuated as to offer no longer any resistance. The utero-sacral ligaments, in a state of health, are scarcely worthy of note, being formed but of a reduplication of the peritonæum and a little cellular tissue. These, however, become frequently thick-

ened, and, having closed partially over an enlarged and retroverted uterus, can be readily mistaken for adhesions, in consequence of the obstacle they sometimes present in an attempt to restcre the organ to its normal position. I have long accustomed myself to rely on the index-finger for the reduction of this displacement, and with a little practice it becomes the most reliable means we can employ. It is one certainly attended with the least risk, as we are able to appreciate at once the point and extent of resistance. When we have once ascertained the fact that there are no adhesions nor lurking inflammation in the neighboring cellular tissue, an experienced operator may, with comparative safety, use the sound or any other means to which he has been accustomed. But the method which I will describe is attended with less pain, and I believe with the least danger, under all circumstances. The patient is to be placed on the back, with the knees flexed, and the hips drawn down to the edge of the operating table or chair. Introduce then the index-finger into the vagina, and direct the point of a tenaculum, which is to be hooked into the posterior lip, just within the os. This instrument is to be used for the purpose of gently drawing forward the organ, sufficiently toward the vaginal outlet, that we may be satisfied the fundus is distant enough from the hollow of the sacrum to pass the promontory when elevated. At the first attempt this must be done with care, and if a point is reached at which great pain is caused, we must then desist. By this manœuvre the uterus has, of course, become more retroverted than before. To correct this, the perinæum should be pressed firmly back, that the finger in the vagina may be passed as far up behind the uterus as possible, and made at the same time to lift up the organ. When the uterus has been thus elevated, and while it is being held up by the finger, the cervix is suddenly carried in an arc of a circle, downward and backward, by means of the tenaculum held in the other hand. By aid of the finger in the vagina, the fundus has been pressed up against the utero-sacral ligaments. These ligaments, having been put slightly on the stretch, gape as the tension is suddenly relaxed by carrying the cervix backward, and the fundus slips between them. The finger must be then placed

against the anterior lip, the tenaculum withdrawn, and the organ anteverted by passing the finger repeatedly down the anterior face of the uterus, so as to press the cervix downward and backward into the hollow of the sacrum. If an unusual degree of pain is experienced at any point, we must use our judgment as to how far it may be safe to proceed, or desist entirely for the time being, until all active symptoms have subsided under the proper treatment. When successful, I frequently make no attempt, by mechanical means, to hold the uterus in position, until I have again replaced it and have satisfied myself that no tenderness on pressure exists at any point which would come in contact with the pessary to be used. The form of the instrument should be adapted to carry the cervix well back, and with a sufficient curve in the posterior *cul-de-sac* to keep it elevated, so that the organ must remain anteverted. I have been consulted, more than on any other point, as to the best form of pessary to be used in practice. A difficult question to answer, as there is some individual peculiarity about nearly every case, on the appreciation of which to a great extent success will depend. Some modification of Hodge's closed lever pessary, however, will be found applicable to the largest number of cases, as it conforms more than any other to the natural shape of the vagina. A pessary, to do no harm, should be small enough to admit of the passage of the finger between it and the vaginal wall at every point, while the patient lies on the back. It must be just large enough to give the needed support to the uterus, and be at the same time small enough for the vagina to regain gradually its natural size. The elasticity of the canal is sufficient to admit of a dilatation to the extent of the pelvic excavation; but it will prove an exception to the rule if a pessary, properly curved, need ever be over three inches in length and an inch and a half in width. Whenever it is possible to avoid making the pubis the chief point of support, I do so. But it is often unavoidable in cases of long-standing retroversion, where the anterior wall of the vagina has become shortened in consequence, and in cases of prolapse of the posterior wall, from laceration of the perinæum. But where the vaginal outlet is not too large, and the posterior *cul-de-sac* is

of a natural depth, the principle of the lever-pessary is applicable to nearly all cases. The fulcrum of this double lever rests on the posterior wall of the vagina at the bottom of the *cul-de-sac*. It should be so curved in reference to this *cul-de-sac* and posterior wall at one extremity, and at the other end bent with a lesser curve in the opposite direction, so that the instrument may be balanced. As the patient stands on her feet, the weight of the uterus will cause the other end of the instrument to rest against the anterior wall of the vagina, near the neck of the bladder. On assuming the horizontal position, the instrument will present in the axis of the vagina near the outlet. It will thus compensate itself by a change of position, so that it cannot, from continued pressure at any one point, cut into the vaginal tissues. A longer curve will be needed in the *cul-de-sac* where retroversion has existed, than with prolapse from hypertrophy, where the object is simply to lift the organ from the floor of the pelvis. In the latter condition, the upper portion of the vagina will be more dilated, as a rule, than the lower part, and the instrument must be made to correspond. The closing in of the vaginal walls around an instrument, made larger above, has the effect of crowding it upward in the canal. When even the outlet is larger than natural, and dilated from a prolapse of the vaginal walls, we must restore the canal to a natural size and close the laceration through the perinæum, by a surgical operation, before an instrument can be worn with advantage for correcting the retroversion. An instrument, under the circumstances, to be used as a temporary means of relief, must be made wider below, with the greater curve also at this point, so as to get the needed support from behind the pubis, and with a depression to guard the neck of the bladder from pressure. We find occasionally a difference in the curve on each side of the symphysis, so that, if an instrument is made symmetrical, it will bury and cut into the soft parts covering the lesser curve. On the corners of the instrument there should be no sharp angles, but a gradual curve; and frequently it is necessary to bend the corners downward, to correspond with the roof of the vagina at this point. In the posterior *cul-de-sac* the instrument should never be so abruptly curved as to make pressure

directly against the uterus at its junction with the vagina, but at some little distance beyond. The circulation in the neck is easily obstructed by pressure at this point, so that it will soon cause an erosion about the os; and frequently an intolerance to the presence of any instrument in the *cul-de-sac* becomes established, in consequence of irritation or inflammation of the lymphatic glands found in this neighborhood. The shorter the vagina, the straighter must the instrument be made, for if curved too much it will rotate and remain across the axis of the canal. A straight instrument has to be wider in the middle, in proportion to its length, than a curved one. The widest part of the vagina is from one sulcus to the other, while the lateral walls and posterior surface of the canal form a concavity; consequently, a curved instrument should be made rather smaller in the middle, as its support is chiefly derived from the posterior wall. It is a very common occurrence to find an instrument, when too wide, cutting its way along the lateral walls of the vagina, at the bottom of a deep fold formed as the pessary is carried downward from the pressure above. It may be accepted as a rule that, so long as a patient can recognize from her feelings that she is wearing an instrument, it either does not fit, or she is in no condition to wear one; and in either case it will do her harm. So soon as an instrument has been properly adjusted, and there is no tenderness on pressure at any point in the vagina coming in contact with it, the patient will be unconscious of its presence. I prefer at first the use of block-tin rings, on account of their greater malleability. After modeling one of a proper size to the case, and having fairly tested its use, I then have the instrument reproduced in aluminium, silver gilt, or hard rubber. These are, in brief, the main points to be observed in adjusting a pessary properly, but in each case there will be a necessity for some modification in consequence of individual peculiarities. Success will depend entirely on an accurate appreciation of these differences, and on the mechanical skill innate to the operator. To a want of both or of either gift, must be attributed the unsatisfactory results so often complained of.

The uterus, an erectile organ, and surrounded by a mass of blood-vessels passing in every direction through loose cellu-

lar tissue, is directly affected by any increase or diminution in the neighboring circulation. We must appreciate that in no other part of the body have we such a matted net-work of vessels in the same space. In consequence of the erectile character of all the tissues, these vessels become varicose from any continued obstruction to the circulation, and have an almost incredible venous capacity. As a stream of water will saturate the ground and lose itself in a marsh, so will the circulation through the pelvic cellular tissue, and become in disease equally sluggish. On theoretical grounds the difficulty could be easily overcome by local bloodletting; but the chief objection to the treatment, if there were no other, would be the already reduced general system of the patient. In this over-distended condition of the veins, the balance has been lost, and they are no longer able to return to the general circulation the same quantity of blood received by them from the arterial capillaries. Local depletion would, therefore, act rather as a source of irritation, to increase the congestion, where this loss of tone existed in the coats of the vessels. There are certain conditions where a few leeches applied to the anus, or free scarification of the cervix, may be resorted to with great benefit. We will take, for an example, a sudden suppression of menstruation, from exposure or any other accidental cause, where the congestion is almost entirely arterial, and above the secreting point, as it were. Under such circumstances by temporarily lessening the congestion we assist the vessels, which have not yet lost their tone, to regain their normal size; the circulation is stimulated, soon the organ is able to resume its function, and the equilibrium is restored. If we apply leeches to the uterus of a female who has been long suffering from local disease, we will find although a momentary sense of relief may have been experienced, that the organ has increased in weight and is lower in the pelvis than before. As her general vitality had been previously lowered, even a slight additional loss of blood will be found sufficient to greatly increase the previous hyperæsthesia.

There can be no restoration to health, in either the local or general condition, so long as anæmia exists, since the blood has lost those elements by which organic life is properly stim-

ulated. Throughout the menstrual life of the female, the organs of generation exercise a dominant influence over the nervous system; in health, through the reflex system, they act as the fly-wheel to the mechanism. Therefore, so soon as any serious local difficulty of a chronic character is established, the nervous force becomes lowered, general functional derangement supervenes, and impaired nutrition follows as a sequence. Although we are unable to cure the local difficulty until we have improved the general condition, yet we can set the ball in motion by lessening the local source of irritation. Unless we can control the pelvic circulation, and at least impart a temporary tone to these vessels, it will be found in the end that little has been accomplished. We have our remedies for local application within the uterine canal, and much can be accomplished by mechanical means when appropriate. But in the simple remedy, hot-water vaginal injections, we possess the most valuable means of relief when properly administered. Although it has now been many years since this remedy was first introduced into practice, but a small portion of the profession appreciate its use or understand its action. It is generally conceived that the application of heat by this method relaxes the vessels and increases the congestion. This it does at first, but, if prolonged, the capillaries are excited to increased action; as they contract, the tonic stimulus extends to the coats of the larger vessels, their calibre becomes lessened, and, with an approach to healthy action, the congestion diminishes. No one applies a hot poultice with the view of increasing the congestion of the parts, but, as any old woman would explain it, "to draw the inflammation out," that is, to lessen the congestion by causing contraction of the vessels. That such is the effect of the continued use of a poultice is shown by the bleached and wrinkled appearance of the tissues after its removal. We can cause capillary contraction also by the use of cold, and the effect is even more prompt, but, when reaction comes on, the tissues will become more congested than before. In brief, the immediate effect of cold is contraction, and with reaction we always have dilatation; heat, on the contrary, causes dilatation at first, and its action is followed by contraction afterward.

If a woman be placed on her back, with the hips elevated by a properly-shaped bed-pan under her, and a gallon or more of hot water at 98° or of a higher temperature be slowly injected into the vagina by means of a Davidson's syringe, the mucous membrane will become blanched in appearance, and the canal as diminished in size as if a strong astringent had been administered. While the hips are elevated, the vagina will retain, during the injection, a large quantity of water, which by its weight will distend every portion of the canal, so that it will come in direct contact with the whole mucous membrane under which the capillaries lie. The vessels of the neck and body of the uterus pass along the sulcus on each side of the vagina, and their branches encircle the canal in a most complex network. The vessels of the fundus, through the veins of which the blood passes by the liver back into the general circulation, communicate with those below by anastomosis. We can thus, through the vagina, influence directly or indirectly the whole pelvic circulation. We can so diminish the supply as not only to check congestion, but we can literally, by the use of hot water, starve out an inflammation. I know from my own personal observation that several of these injections a day, at 100° to 106°, will abort an attack of cellulitis if resorted to early enough, and their use persevered in, with the aid of rest and anodynes. These injections exercise a most beneficial effect on the reflex system by allaying the local irritation. I know of no better means for removing the nervousness and sleeplessness of an hysterical woman than a prolonged hot-water vaginal injection, when administered by an experienced hand. These injections will frequently soothe a patient to sleep in less time than could be done by any anodyne in the pharmacopœia. To receive permanent benefit from their use, they must be continued until the patient is restored to health. They should be given at least once a day, and the best time is on retiring at night. The only position in which the patient can receive any benefit from them is on the back, with the hips elevated, as I have described. She cannot administer them properly to herself, and I know of no arrangement, by siphon or other means, which can take the place of an intelligent nurse. As the patient improves in health, the quantity of

water can be diminished, and the temperature lowered until the injections are discontinued from daily use, but for some time they should be employed for a few days after each period.

In 1859 I first used tepid and then hot-water injections, in the treatment of a member of my own family; at that time and for years afterward cold-water injections, at a low temperature, were used by every one in the treatment of uterine disease. I continued to employ hot injections in my private practice until the autumn of 1862, when I was appointed to the charge of the Woman's Hospital. From that date to the present, in this institution, and in my private practice, nearly every patient coming under my care has been treated by this method, merely varying the quantity of water and the temperature according to the circumstances of the case.[1]

The patient will be in a better condition for getting out into the open air after we have lifted up a uterus with version, or prolapsed, by an instrument to aid in restoring the circulation through the organ. The general condition will, however, in all probability, yet admit of little local treatment. Beyond the vaginal injections, to which a little chlorate of potash, or any other remedy indicated, may be added, with a daily pledget of cotton saturated with glycerine, and introduced into the vagina, our treatment will be limited until we have directed our attention somewhat to the general system. In a case of long standing we will scarcely find an organ in

[1] The action of hot water in surgery, as a means of preventing hæmorrhage, was first brought to my notice by the late Dr. Pitcher, of Detroit. He stated that for many years he had been in the habit, when operating, of applying to a bleeding surface sponges taken from water as hot as could be borne. His explanation was, that, after a clot had formed in the mouth of a dilated vessel, the continued application of heat caused it, on reaction, to contract so firmly on the clot that secondary hæmorrhage could not occur. With his views of the action of heat, when continued, on the coats of vessels, and my own in regard to the condition of the circulation in the pelvis, came the first suggestion to my mind of its application in the treatment of uterine disease. I have been so thoroughly identified with this mode of practice, that it seems scarcely necessary to claim the priority. Certainly, no one in this country is on record as an advocate for the practice previous to myself; and, as far as I have been able to ascertain, the same is true in regard to the practice of gynæcologists abroad.

the body which is not suffering from functional derangement. The connection of one function with another is so intimate in the organic circle of nutrition that the derangement of any one soon jeopardizes the integrity of the whole.

The result will be enfeebled digestion, a sluggish portal circulation, and imperfect respiration; so the blood is no longer oxygenized properly, and with but partial elimination it is returned to the general circulation in a condition not unlike that of a cold-blooded animal. The kidneys are overworked, and the skin is inactive; repair to a great extent has ceased, and a general waste is the rule. In addition, we often have, combined in the same subject, the pernicious effects from the habitual use of alcohol in some form, anodynes, and coffee. The first step must be at once, without a compromise, to break up the dependence upon either of these now active poisons to the nervous system. Their indiscriminate use having in the beginning aided not a little in bringing about the general wreck, a continuance would but defeat the best-devised efforts for a restoration. We can aid digestion but little at first by the use of medicines; our chief dependence must be simple and nutritious food, small in bulk and often administered.

An attempt must be made to bring about a healthy action of the skin by means of hot-air baths, general friction, and exposure of the body to the direct action of sunlight. With any improvement in the condition of the skin we will relieve, through the circulation, the over-taxed kidneys, the portal system, and indirectly assist digestion. The action of sunlight is beneficial in relieving the anæmia, by creating a rapid tolerance of the stomach to the administration of iron. The use of iron, in any form, and sunlight, must go together, for, without the aid of the latter, ferruginous preparations are not properly taken up by the stomach, and must only act as an irritant. As we lessen the anæmia and improve the condition of the blood, the capillary action will become more vigorous, and the power of assimilation and elimination must increase; we can then do more by medicinal means to assist digestion. We can relieve the portal system by the use of mild salines and other remedies, and by doing so we remove the chief obstacle to the proper return of the venous blood from the pelvis into the general

circulation. As we continue the use of baths, and friction to the whole surface of the body, the patient gains strength, and is able to exercise and remain more in the open air. With increased action of the skin, we will find that the bowels can be better regulated, and constipation relieved by less aid from artificial means. Having advanced so far in the general treatment of the case, the physician will have already thoroughly tested his knowledge of the practice of medicine, and by the least resort to drugs his success will have been in proportion to his resources.

After we have appreciated any existing displacement of the uterus, or simple prolapse from enlargement of the organ, due probably to imperfect involution, the most common cause, our attention will be directed to the existence of an erosion or excoriation of the epithelium; but so-called ulceration of the cervix is a condition in itself of but little moment, as it will heal by attention to cleanliness, and on lessening the discharge from the uterine canal. In practice we cannot appreciate the full extent of disease in the mucous membrane, whether confined exclusively to the neck, body, or fundus, and it is but a question of time before the whole canal may become involved. We learn, however, from experience, that recovery is more rapid when the disease exists near the os, than when situated in the upper portion of the canal. The most common point of origin has yet to be determined; but my impression is that, in females who have not borne children, the disease generally has a beginning in the cervix, while the seat of the placenta is the point with others, and from which the disease extends toward the cervix, or in the opposite direction. The uterine discharge is more profuse when from the cervical canal, clearer and of a more gleety character from the neighborhood of the internal os, and diminishes in quantity and consistency on approaching the fundus. The selection of remedies varies somewhat with the seat of disease, but my present knowledge is not sufficient to be explicit. The truth is, that our practice here becomes somewhat empirical, for we can neither map out the boundary nor direct with accuracy our applications to the diseased surface alone: so that a remedy, which was apparently most efficacious in a previous case, may prove inert under

a like condition, so far as we yet possess the knowledge of appreciating a difference. We know, however, that remedies of a more stimulating character, with astringents as adjuvants, are useful as applications to disease about the cervix, and alteratives for the upper portion of the canal. In our selection we must use those calculated to do the least harm to the mucous membrane which may still be in a normal condition. Rare indeed is the necessity for applying, within the uterine canal, caustics, the cautery, or the strong mineral acids. It is true that these remedies act promptly, so far as to heal an erosion and to check all uterine discharge. But we cannot restore the patient to health by so far changing the character of the mucous membrane as to leave it a mere cicatricial surface. Our ultimate success will be directly in proportion to the condition in which we leave this membrane, for we will need its healthy action in the after-treatment of the case. That individual cases escape with but little damage is only due to protection afforded by the secretions; yet the practice, as a rule, is disastrous enough to deprecate their use. We have no remedy which will act with more promptness than the nitrate of silver, when applied to the mucous membrane of the cervix, yet it has done more damage than any other. From being in common use it is the more dangerous, for its repeated action will ultimately destroy the mucous follicles, harden the tissues, and close the os as certainly as the application of the actual cautery. The evil effects of its application on the mucous membrane of other parts of the body are so well recognized, that its continued use for the uterine canal is remarkable.

I have found most useful for applications to the cervix, Squibb's impure carbolic acid, or creosote-tar. Its action is very different from that of the pure carbolic acid; it exerts a local anæsthetic effect, and is not a caustic. This may be applied at intervals of ten days, with the intermediate use of tannin and glycerine, or the pinus canadensis. It is advisable to add to the last pint of the hot-water vaginal injection a certain quantity of chlorate of potash, chloride of sodium, borax, carbonate of soda, or alum, as may seem indicated. When the disease is above the cervix, and the patient is in a fit condition for their use, sponge-tents may be employed for their alterative effect.

They may be used, of a small size, merely to set up a new action by their presence, and by moderate pressure may be of benefit in relieving congestion, on remaining long enough to excite a free discharge; or of a larger size, with the view of dilating the canal fully and exciting the uterus to contraction, in cases of hypertrophy. After removing a large tent, and while the canal is still dilated, it is beneficial to wash out the cavity with a continued but gentle stream of hot water from the nozzle of a Davidson syringe introduced well up to the fundus. Before the uterus has contracted, it is well to make a thorough application of the strong tincture of iodine throughout the canal. I sometimes alternate with the use of iodine by introducing within the canal either the dry persulphate of iron, the oxide of zinc, or powdered alum. This is done by means of a roll of moist cotton twisted around the applicator and well covered with the powder. After wrapping the cotton firmly around the applicator and giving it the proper curve, the twist is reversed with the fingers so as to loosen the cotton sufficiently, so that when introduced to the fundus it will remain behind on withdrawing the instrument. The presence of the cotton can produce no irritation, as it occupies so little space, and it will be thrown out from the uterus in a few hours if a portion is left projecting from the os. The profuse white-of-egg-like discharge does not seem to be a product so much of congestion of the mucous membrane as from disease of individual Nabothian glands, which project and can be felt with the probe. In addition to the treatment given, I frequently remove these little projecting bodies by means of scissors when within reach. Disease at the fundus is a more serious condition to overcome, and one but little influenced by any special application. The lining membrane of the upper portion of the canal is so different in character, that I doubt if disease is ever confined exclusively to it, but at the same time the uterine tissues beneath are always more or less involved. The frequent use of iodine, with the view of lessening the size of the whole organ, must be our main reliance, with more care for improving the general system than where the disease seems to be confined to the mucous membrane itself.

I feel that I cannot, in justice to the subject or myself,

enter more into detail. The views of treatment which I have already advanced are equally applicable in some respects to any form of uterine disease. But, from the fact that displacements and versions cannot be treated by mechanical or surgical means alone, the propriety of entering in addition on a subject of such scope might be questioned. It is but just that I should state that my views have been based to a great extent on a hospital practice, yet I hope they may prove no less useful as an experience in the treatment of an exaggerated form of disease which must always be opprobrious in private practice. Imperfectly as these views have been given, they have been gathered from a most extended field of observation. In consequence of a continuous service of some twenty years in the Woman's Hospital, when it was so long the only institution for the treatment of these diseases in the country, I have been favored with advantages which could scarcely occur again; while, in addition, from holding the position of surgeon-in-chief to the institution during so great a portion of the time since its foundation, I have had a rare opportunity for observing the practice of others and for correcting my own mistakes. A record has been preserved of every case which has been under treatment in the Woman's Hospital, and in my own practice, so that I have been able to keep for years a large number of former patients under observation. By the aid of these records, and by personal observation on the return of the patients at stated intervals, I have been able from time to time to fairly test the value of different modes of treatment.

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